CLAIMS

What is claimed and desired to be secured by Letters Patent is as follows:

1. A modular roof and floor panel assembly for connection with and spanning a pair of horizontally extending girders and comprising:

   (a) a plurality of structural members including a pair of elongated frame side members and a pair of elongated frame end members, each of said members having a planar side surface;

   (b) said side members and said end members being joined at their ends to form a rectangular panel frame having substantially planar outer perimeter surfaces formed by said planar side surfaces of said members, said panel frame having a top side and a bottom side; and;

   (c) a deck member secured to said top side and enclosing said frame.

2. The modular roof and panel assembly as set forth in claim 1, and including:

   (a) fasteners enabling attachment of said frame end members to said girders.

3. The modular roof and panel assembly as set forth in claim 1, and including:

(a) a bracket member connecting an end member of said panel frame to one of said girders.

4. The modular roof and panel assembly as set forth in claim 1 and including:

(a) a T-shaped bracket formed by a bracket web having a first end and a second end and a pair of bracket flanges extend from said first end of said bracket web;

(b) said bracket having said second end of said bracket web joined to one of said girders; and

(c) said bracket flanges being fastened to one of said end members of said panel frame to thereby join said end member to one of said girders.

5. The modular roof and floor panel assembly as set forth in claim 1, wherein:

(a) said frame end members are adapted to enable connection with said girders; and

(b) said frame side members are adapted to enable connection with frame side members of additional panel assemblies.

6. The modular roof and floor panel assembly as set forth in claim 1 wherein:

(a) said frame end members are adapted to enable connection with said girders; and

(b) said frame end members are further adapted to enable connection with frame end members of additional panel assemblies.

7. The modular roof and floor panel assembly as set forth in claim 1, wherein:

(a) said frame structural members have a generally C-shaped cross section, including an upper flange and a lower flange joined by a closed web; and

(b) each of said structural members is oriented and positioned on said frame to enable said web to form a portion of said substantially planar outer perimeter surface of said frame.

8. The modular roof and floor panel assembly as set forth in claim 1, wherein:

(a) at least one of said frame structural members of a panel assembly has a tubular, rectangular cross section, including an upper wall and a lower wall jointed by a pair of spaced apart side walls.

9. The modular roof and floor panel assembly as set forth in claim 1, wherein:

(a) a plurality of said panels are joined together in side-by-side relation.

10. The modular roof and floor panel assembly as set forth in claim 1 wherein:

(a) a plurality of said panels are joined together in end-to-end relation.

11 The modular roof and floor panel assembly as set forth in claim 1 wherein:

(a) a plurality of said panels are joined together in side-to-side and end-to-end relation.

12. The modular roof and floor panel assembly as set forth in claim 1, wherein:

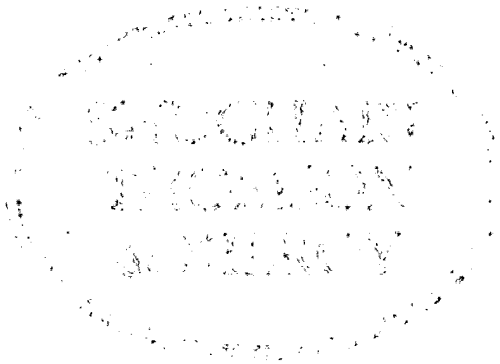
(a) a generally rectangular framework is connected with a plurality of said side members in spanning relationship for supporting a roof top unit.

13. Modular roof and floor panel assemblies for connection with and spanning a pair of parallel, horizontally extending girders, each assembly comprising:

(a) a plurality of structural members including a pair of elongated frame side members and a pair of elongated frame end members, each of said members having a planar side surface;

(b) said panel frame side members and said end members being joined at their ends tor form a rectangular panel frame having substantially planar outer perimeter surfaces formed by said planar side surfaces of said members, said panel frames each having a top side and a bottom side; and

(c) a deck member secured to each of said top sides and enclosing each of said frames.



14. The assemblies as set forth in claim 13, wherein:

(a) said panel assemblies are connected together in side-by-side and end-to-end relationship.

15. The assemblies as set forth in claim 13, wherein:

(a) said frame end members further include structure enabling attachment to said girders.

16. The assemblies as set forth in claim 13, wherein:

(a) said frame end members are adapted to enable connection with said girders; and

(c) said frame side members are adapted to enable connection with frame side members of adjacent panel assemblies.

17. The assemblies as set forth in claim 13, wherein:

(a) said frame structural members have a generally C-shaped cross section, including an upper flange and a lower flange joined by a web; and

(b) said webs are positioned on said frames to form said substantially planar outer perimeter surfaces of said frames.

18. The assemblies as set forth in claim 13, wherein:

(a) at least one of said frame structural members have a tubular, rectangular cross section, including an upper wall and a lower wall jointed by a pair of spaced apart, side walls.

19. The assemblies as set forth in claim 13, wherein:

(a) a generally rectangular framework is connected with a plurality of said side members in spanning relationship for supporting a roof top unit.

20. A modular roof and floor panel system for connection with and spanning a pair of parallel, horizontally extending girders and comprising:

(a) a plurality of rectangular panel frames, each frame including:

(1) a plurality of structural members including a pair of elongated frame side members and a pair of elongated frame end members, each of said members having a planar side surface;

(2) said side members and said end members being joined at their ends to form a rectangular panel frame having substantially planar outer perimeter surfaces formed by said planar side surfaces of said members, said panel frame having a top side and a bottom side;

(b) a deck member secured to said top side and enclosing said frame;

(c) said panels being joined to said girders by connection of end members of each panel respectively to said girders; and

(d) said panels being joined in side-by-side relation by mutual connection of facing side members of adjacent panels.

21. The assemblies as set forth in claim 20, wherein:

(a) said frame structural members have a generally C-shaped cross section, including an upper flange and a lower flange joined by a closed web; and

(b) each of said structural members is oriented and positioned on said frames to enable the webs of said structural members to form said substantially planar outer perimeter surface of each of said frames.

22. A method of assembling a roof and floor deck on a pair of parallel, horizontally extending girders and comprising the steps of:

(a) providing a plurality of prefabricated roof and floor panel assemblies, each assembly including:

(1) a plurality of structural members including a pair of elongated frame side members and a pair of elongated frame end members, each of said members having a planar side surface;

(2) said side members and said end members being joined at their ends to form a rectangular panel assembly having substantially planar outer perimeter surfaces formed by said planar side surfaces of said members, said assembly having a top side and a bottom side; and

(3) a deck member secured to said top side and enclosing said assembly;

(b) lifting each prefabricated roof and floor deck assembly onto said pair of girders and positioning said assembly in spanning relation between said girders;

(c) connecting end members of each assembly with a respective one of said girders;

(d) positioning adjacent assemblies in side-by-side relation; and

(e) interconnecting facing side members of adjacent assemblies.

23. The method of assembly as set forth in claim 22, wherein:

(a) said step of coupling said assembly end members is performed from a position below said roof and deck assembly.

24. A method of assembling a roof and floor deck using a plurality of prefabricated roof and floor deck assemblies, comprising the steps of:

(a) providing a plurality of prefabricated roof and floor panel assemblies, each assembly including a rectangular frame of elongated structural members, said frame including a pair of side members and a pair of end members and having a top side and a bottom side; said frame side members and end members each including a substantially planar outer perimeter surface; and a deck member secured to said top side and enclosing said frame;

(b) lifting and positioning a first prefabricated roof and floor deck assembly on and spanning between a pair of existing girders;

(c) fastening each of said first assembly end members to a respective one of said pair of girders;

(d) lifting and positioning a second prefabricated roof and floor deck assembly on and spanning between said pair of existing girders in side-by-side relationship with said first assembly;

(e) fastening each of said second assembly end members with a respective one of said girders; and

(f) fastening one of said first assembly side members with an adjacent one of said second assembly frame side members.

25. The method of assembly as set forth in claim 24, wherein:

(a) said fastening steps of said first and second assembly end members and side members are performed from a position below said roof and deck assembly.

26. The method of assembly as set forth in claim 24, wherein said step of lifting and positioning further includes:

(a) positioning a second prefabricated roof and floor deck assembly on and spanning between said pair of existing girders in end-to end relationship with said first assembly.